

CLAIMS:

Please **AMEND** the claims as follows

1-8. (Previously Cancelled)

9. (Currently Amended) A computer-readable medium storing thereon computer-readable instructions, the computer-readable medium storing thereon a data structure, the data structure comprising:

a plurality of rows;

a type column adapted for storing a row type for each of the plurality of rows of the data structure, each row type indicating a structure of the corresponding row, wherein the structure includes a set of columns of the data structure associated with the corresponding row, the row type being selectable from a set of row types such that the row type indicates an identity of each of the set of columns, thereby enabling ~~at least one of the number of the columns or the identity of the columns~~ the structure for each of the plurality of rows to vary based upon the row type for that row, wherein the type column is separate from the set of columns of the structure identified by each row type stored in the type column;

computer-readable instructions for storing data retrieved from two or more data stores in the set of columns for the plurality of rows; and

computer-readable instructions for storing a row type for each of the plurality of rows of the data structure in the type column, wherein the row type for a corresponding one of the plurality of rows indicates ~~the~~ an identity of the set of columns of the structure storing data for the corresponding row;

wherein the two or more data stores include a first data store and a second data store, wherein the first data store stores data in a different format from data stored in the second data store, thereby enabling data retrieved from data stores storing data in different formats to be stored in a single data structure.

10. (Previously Presented) The computer-readable medium of claim 36 wherein a sub-column of one of the sub-rows of the nested data structure includes a further nested data structure.

11. (Previously presented) The computer-readable medium of claim 9 wherein the data structure is a nested conditional relation data structure.

12. (Previously Presented) The computer-readable medium of claim 9 wherein at least two rows of the data structure contain different row types in the type column.

13. (Previously Presented) The computer-readable medium of claim 36 wherein at least two sub-rows of the data structure contain different row types in the type sub-column.

14. (Previously Presented) The computer-readable medium of claim 9 wherein the row type for each of the plurality of rows identifies a schema for a type.

15. (Currently Amended) A method for storing data in a data structure, the method comprising:

retrieving data from two or more data stores, wherein the two or more data stores include a first data store and a second data store, wherein the first data store stores data in a

different format from data stored in the second data store;

identifying a row type corresponding to data to be stored in each of the plurality of rows of the data structure, each row type indicating a structure of the corresponding row, wherein the structure includes a set of columns of the data structure associated with the corresponding row, the row type being selectable from a set of row types such that the row type indicates an identity of each of the set of columns, thereby enabling the set of columns for each of the plurality of rows to vary based upon the row type for that row;

storing the row type for each of the plurality of rows of the data structure in a type column of the data structure, thereby enabling ~~at least one of the number of the columns or the identity of the columns~~ the structure for each of the plurality of rows to vary based upon the row type for that row, wherein the type column is separate from the set of columns identified by the row types stored in the type column; and

storing the data retrieved from the two or more data stores in the set of columns for the plurality of rows, thereby enabling data retrieved from data stores storing data in different formats to be stored in a single data structure.

16. (Previously Presented) The method of claim 38 wherein a sub-column of a sub-row of the nested data structure includes a further nested data structure.

17. (Previously Presented) The method of claim 15 wherein the data structure is a nested conditional relation data structure.

18. (Previously Presented) The method of claim 15 wherein at least two rows of the data structure contain different row types in the type column.

19. (Previously Presented) The method of claim 38 wherein at least two sub-rows of the nested data structure contain different row types in the type column.
20. (Previously Presented) The method of claim 15 wherein the row type for each of the plurality of rows identifies a schema for a type.
21. (Previously Presented) The method of claim 15, further comprising:
- receiving a query directed to multiple data stores including a first data store and a second data store, wherein the query is in the second format, the first data store is in the first format and the second data store is in the third format;
 - generating a first query directed to the first data store based on the first format using the received query and a mapping between the first format and the second format;
 - generating a second query directed to the second data store based on the third format using the received query and a mapping between the third format and the second format;
 - executing the first generated query based on the first format against the first data store in the first format to generate first data wherein the generated first data is stored in the data structure; and
 - executing the second generated query based on the third format against the second data store in the third format to generate second data wherein the generated second data is stored in the data structure.
22. (Previously Presented) The method of claim 21, further comprising converting the data of the created data structure into data in the second format.
23. (Previously presented) The method of claim 21 wherein the second format is an XML

format.

24. (Currently Amended) A computer system for storing data in a data structure having a plurality of rows, comprising:

a processor; and

a memory, at least one of the processor or the memory being for:

~~means for~~ retrieving data from two or more data stores, wherein the two or more data stores include a first data store and a second data store, wherein the first data store stores data in a different format from data stored in the second data store;

~~means for~~ identifying a row type corresponding to data to be stored in each of the plurality of rows of the data structure, each row type indicating a structure of the corresponding row, wherein the structure includes a set of columns of the data structure associated with the corresponding row, the row type being selectable from a set of row types such that the row type indicates an identity of each of the set of columns, thereby enabling the set of columns for each of the plurality of rows to vary based upon the row type for that row;

~~means for~~ storing the row type for each of the plurality of rows of the data structure in a type column of the data structure, thereby enabling ~~at least one of the number of the columns or the identity of the columns~~ the structure for each of the plurality of rows to vary based upon the row type for that row, wherein the type column is separate from the set of columns identified by the row types stored in the type column; and

~~means for~~ storing the data retrieved from the two or more data stores in the set of columns for the plurality of rows, thereby enabling data retrieved from data stores storing data in different formats to be stored in a single data structure.

25. (Previously Presented) The computer system of claim 40 wherein a sub-column of a

one of the sub-rows of the nested data structure includes a further nested data structure.

26. (Previously presented) The computer system of claim 24 wherein the data structure is a nested conditional relation data structure.

27. (Previously Presented) The computer system of claim 24 wherein at least two rows of the data structure contain different row types in the type column.

28. (Currently Amended) The computer system of claim 40 wherein at least two sub-rows of the nested data structure contain different row types in the type sub-column.

29. (Previously Presented) The computer system of claim 24 wherein the row type for each of the plurality of rows identifies a schema for a type.

30. (Currently Amended) The computer system of claim 24, at least one of the processor or the memory being for: including:

providing a mapping of a first format to a second format;

providing a mapping of a third format to the second format;

~~means for~~ receiving a query directed to multiple data stores including a first data store and a second data store, wherein the query is in the second format, the first data store is in the first format and the second data store is in the third format;

~~means for~~ generating a first query directed to the first data store based on the first format using the received query and the mapping between the first format and the second format;

~~means for~~ generating a second query directed to the second data store based on the

third format using the received query and the mapping between the third format and the second format;

~~means for~~ executing the first generated query based on the first format against the first data store in the first format to generate first data wherein the generated first data is stored in the data structure; and

~~means for~~ executing the second generated query based on the third format against the second data store in the third format to generate second data wherein the generated second data is stored in the data structure.

31. (Previously presented) The computer system of claim 30 including converting the data of the created structure into data in the second format.

32. (Previously presented) The computer system of claim 30 wherein the second format is an XML format.

33. (Previously Cancelled)

34. (Previously Cancelled)

35. (Previously Cancelled)

36. (Currently Amended) The computer-readable medium as recited in claim 9, the data structure further comprising:

a nested data structure in a column of one of the plurality of rows of the data structure, the nested data structure including sub-rows and a type sub-column, each of the

sub-rows having an associated row type in the type sub-column, each row type in the type sub-column indicating a structure of the corresponding sub-row, wherein the structure of the corresponding sub-row includes a set of one or more sub-columns of the nested data structure associated with the corresponding sub-row, the row type in the type sub-column being selectable such that the sub-row type indicates an identity of each of the set of sub-columns, thereby enabling the set of sub-columns for each of the plurality of sub-rows to vary based upon the row type for that sub-row, wherein the type sub-column is separate from the set of sub-columns identified by the row types stored in the type sub-column.

37. (Previously Cancelled)

38. (Currently Amended) The method as recited in claim 15, wherein the data structure further comprises:

a nested data structure in a column of one of the plurality of rows of the data structure, the nested data structure including sub-rows and a type sub-column, each of the sub-rows having a row type stored in the type sub-column, each row type in the type sub-column indicating a structure of the corresponding sub-row, wherein the structure of the corresponding sub-row includes ~~that indicates~~ a set of one or more sub-columns of the nested data structure associated with the corresponding sub-row, the row type in the type sub-column being selectable such that the sub-row type indicates an identity of each of the set of sub-columns, thereby enabling the set of sub-columns for each of the plurality of sub-rows to vary based upon the row type for that sub-row, wherein the type sub-column is separate from the set of sub-columns identified by the row types stored in the type sub-column.

39. (Previously Cancelled)

40. (Previously Presented) The computer system as recited in claim 24, wherein the data structure further comprises:

a nested data structure in a column of one of the plurality of rows of the data structure, the nested data structure including sub-rows and a type sub-column, each of the sub-rows having a row type stored in the type sub-column, each row type in the type sub-column indicating a structure of the corresponding sub-row, wherein the structure of the corresponding sub-row includes a set of ~~indicating~~ one or more sub-columns of the nested data structure associated with the corresponding sub-row, the row type in the type sub-column being selectable such that the sub-row type indicates an identity of each of the set of sub-columns, thereby enabling the sub-columns for each of the plurality of sub-rows to vary based upon the row type for that sub-row, wherein the type sub-column is separate from the set of sub-columns identified by the row types stored in the type sub-column.

41. (Previously Cancelled)

42. (Cancelled)

43. (Cancelled)

44. (Cancelled)

45. (Previously Presented) The computer-readable medium as recited in claim 9, wherein the row types stored in the type column are not data elements and the columns

identified by the row types are adapted for storing data elements.

46. (Previously Presented) The method as recited in claim 15, wherein the row types stored in the type column are not data elements and the columns identified by the row types are adapted for storing data elements.

47. (Previously Presented) The computer system as recited in claim 24, wherein the row types stored in the type column are not data elements and the columns identified by the row types are adapted for storing data elements.

48. (Previously Presented) The computer-readable medium as recited in claim 9, wherein data is stored in the columns for each of the plurality of rows, thereby enabling the data to be retrieved from the columns indicated by the row type for that row.

49. (Currently Amended) The ~~method~~ computer-readable medium as recited in claim 48, further comprising:

computer-readable instructions for retrieving data from one or more of the plurality of rows of the data structure, where the retrieved data is obtained from one or more of the columns indicated by the row type for that row.

50. (Previously Presented) The computer-readable medium as recited in claim 9, further comprising:

computer-readable instructions for retrieving data from one or more of the plurality of rows of the data structure, where the retrieved data is obtained from one or more of the columns indicated by the row type for that row.

51. (Previously Presented) The method as recited in claim 15, wherein the data stored in each of the columns is a primitive type or a nested conditional relation.

52. (Previously Presented) The method as recited in claim 17, further comprising:
converting first data from a first format to a nested conditional relation prior to storing the data;

wherein storing the data includes storing the converted first data.

53. (Previously Presented) The method as recited in claim 52, further comprising:
converting second data from a second format to a nested conditional relation prior to storing the data;

wherein storing the data further includes storing the converted second data.

54. (Previously Presented) The method as recited in claim 15, further comprising:
retrieving data from one or more of the plurality of rows of the data structure, where the retrieved data is obtained from one or more of the columns indicated by the row type for that row.

55. (Previously Presented) The computer-readable medium as recited in claim 9, further comprising:

computer-readable instructions for receiving a query directed to multiple data stores including a first data store and a second data store, wherein the query is in the second format, the first data store is in the first format and the second data store is in the third format;

computer-readable instructions for generating a first query directed to the first data store based on the first format using the received query and a mapping between the first

format and the second format;

computer-readable instructions for generating a second query directed to the second data store based on the third format using the received query and a mapping between the third format and the second format;

computer-readable instructions for executing the first generated query based on the first format against the first data store in the first format to generate first data wherein the generated first data is stored in the data structure; and

computer-readable instructions for executing the second generated query based on the third format against the second data store in the third format to generate second data wherein the generated second data is stored in the data structure.

56. (Previously Presented) A computer system for storing data in a data structure having a plurality of rows, comprising:

a processor; and

a memory, at least one of the processor or the memory being adapted for:

retrieving data from two or more data stores, wherein the two or more data stores include a first data store and a second data store, wherein the first data store stores data in a different format from data stored in the second data store;

identifying a row type corresponding to data to be stored in each of the plurality of rows of the data structure, each row type indicating columns of the data structure associated with the corresponding row, thereby enabling the columns for each of the plurality of rows to vary based upon the row type for that row;

storing the row type for each of the plurality of rows of the data structure in a type column of the data structure, thereby enabling at least one of the number of the columns or the identity of the columns for each of the plurality of rows to vary based upon the row type

for that row, wherein the type column is separate from the columns identified by the row types stored in the type column; and

storing the data retrieved from two or more data stores in the columns for the plurality of rows, thereby enabling data retrieved from data stores storing data in different formats to be stored in a single data structure.

Please ADD new claims as follows:

57. (New) The computer-readable medium as recited in claim 9, wherein the row type indicates a type of record storing the corresponding row.

58. (New) The computer-readable medium as recited in claim 9, wherein the structure is a record and wherein the row types indicates a record type of the record.